patent applications and other references mentioned above are incorporated by reference herein.

WHAT IS CLAIMED IS:

1. An electronic ballast to regulate power to a load, comprising:

   A. an integrated circuit (IC) having a driving terminal, the integrated circuit being adapted to generate a train of high-frequency drive pulses at said driving terminal; a feedback terminal and an internal reference voltage; the integrated circuit being adapted to compare a feedback signal received at its feedback terminal with the reference voltage and to adjust the duration of said drive pulses via the input according to said comparison; (PRM, PFM, Delta or other modulation schemes could be employed)

   B. a polarity-reversing bridge connected between the drive terminals and the load, the bridge being driven by separate drive signals and generated by a pair of integrated circuits and providing low-frequency polarity-reversal of the load;

   C. a feedback system connected to the feedback terminal and to the load, the feedback system deriving an average feedback signal from current consumed by the load combined with a voltage feedback signal from voltage impressed on the load. The feedback system combines, by addition, the current and voltage feedback signals to provide said composite feedback signal to the feedback terminal.

2. An electronic ballast as in Claim 1, which ballast further comprises a switch-controlled inductor connected between the load and a source of regulated DC power; wherein the current feedback signal is derived from current through the inductor.

3. An electronic ballast as in Claim 1 and the ballast further including a voltage divider having two

opposite ends, which voltage divider establishes a ratio of load voltage feedback added to current feedback.

4. An electronic ballast, as in Claim 1, and the ballast further including a starter means connected to the bridge and to the load to start ignition of an arc .

5. An electronic ballast, as in Claim 1, wherein the bridge comprises four metal oxide field/effect transistors (MOSFETS)

6. An electronic ballast, as in Claim 1, wherein the load is a high pressure sodium (HPS) lamp

7. An electronic ballast, as in Claim 1, wherein the load is a square wave waveform and the bridge generates a symmetric current waveform.:

8. The method of operation of an electronic ballast to regulate power to a load, comprising:

A. the ballast incorporating an integrated circuit (IC) having a driving terminal, the integrated circuit being adapted to generate a train of high-frequency drive pulses at said driving terminal; a feedback terminal and an internal reference voltage; the integrated circuit comparing a composite feedback signal received at its feedback terminal with the reference voltage and to adjusting the drive pulses according to minimize the error of said comparison;

B. the ballast further containing a bridge connected between the drive terminal and the load, the bridge being driven by "drive" signals and generating symmetric polarity-reversal power to the load;

C. the ballast further comprising a feedback system connected to the feedback terminal and to the load, the feedback system deriving an average current feedback signal from current consumed by the load and deriving a voltage feedback signal from voltage consumed by the load; the feedback system combining, by addition, the current and voltage feedback signals

and providing said composite feedback signal to the feedback terminal. This *voltage plus current* feedback technique is obviously applicable to non-lamp loads, such as motors.

9. The method of operating an electronic ballast, as in Claim 8, which ballast further comprises a switched inductor connected to the load and a source of regulated DC power switch connected to the inductor; wherein the current feedback signal is derived from the average current through the inductor.

10. The method of operating an electronic ballast, as in Claim 8, and the ballast further including a voltage divider having two opposite ends, which voltage divider establishes a ratio of voltage feedback to current feedback; and a current resistor connected to the load to sense current consumed by the load..

11. The method of operation an electronic ballast, as in Claim 8, and the ballast further including a starter means connected to the bridge and to the load to start ignition of an arc.

12. The method of operation of an electronic ballast, as in Claim 8, wherein the bridge comprises four metal oxide field/effect transistors (MOSFETS).

13. The method of operation of an electronic ballast, as in Claim 8, wherein the load is a high pressure sodium (HPS) lamp, high intensity discharge lamp (HID) or other non-resistive load.

14. The method of operation of an electronic ballast, as in Claim 8, wherein the drive current is a square wave waveform and the bridge generates a symmetric current waveform.

15. An electronic ballast to regulate power to a load, comprising:

A. an integrated circuit (IC) means having a driving terminal to generate a train of drive pulses at said driving terminal; a feedback terminal and an internal reference voltage; the integrated circuit means to compare a feedback signal received at its feedback terminal with the reference voltage and to adjust the drive pulses to minimize the error of said comparison;

B. a bridge means connected to the drive terminal and to the load, the bridge being driven by separate drive signals to generate low-frequency polarity-reversal of the load;

C. a feedback system means connected to the feedback terminal and to the load, the feedback system means to derive an average current feedback signal from current consumed by the load and to derive a voltage feedback signal from voltage applied to the load; the feedback system combining, by addition, the current and voltage feedback signals to provide said composite feedback signal to the feedback terminal.

16. An electronic ballast, as in Claim 15, which ballast further comprises a switched inductor connected to the load and a source of regulated DC power switch connected to the inductor wherein the current feedback signal is derived from current through the inductor.

17. An electronic ballast, as in Claim 15, and the ballast further including a voltage divider having two opposite ends, which voltage divider establishes a ratio of voltage feedback to current feedback;

18. An electronic ballast, as in Claim 15, and the ballast further including a starter means connected to the bridge means and to the load to start ignition of an arc .

19. An electronic ballast, as in Claim 15, wherein the bridge comprises four metal oxide field/effect transistors (MOSFETS)

20. An electronic ballast, as in Claim 15, wherein the load is a high pressure sodium (HPS) lamp, high intensity discharge (HID lamp or other non-resistive load.

21. An electronic ballast, as in Claim 15, wherein the load current is a square wave waveform and the bridge means generates a symmetric current waveform.